

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method of establishing at least two node-disjoint paths comprising:

establishing, by a source node, a first directed path, having direction based path segments, from the source node to a target node;

establishing, by the source node, a second directed path, having direction based path segments, from the source node to the target node;

merging, by the source node, the first and second directed paths into a merged path, the merging including adding the first directed path to the second directed path in such a manner that the direction based path segments of opposite direction are removed from the merged path, the adding including

determining if two path segments are between same nodes but of opposite direction,

if so, removing both path segments from the merged path, and
repeating the determination and removal until all such paths
segments are removed from the merged path; and

dividing, by the source node, the merged path into a third and a fourth node-disjoint directed paths between the source node and the target node.

2. (Previously Presented) The method of claim 1, wherein establishing the first directed path includes utilizing either a Generic Route Discovery Procedure or a Dynamic Source Routing protocol.

3. (Previously Presented) The method of claim 2, wherein establishing the second directed path includes utilizing the Generic Route Discovery Procedure.

4. (Original) The method of claim 3, wherein utilizing the Generic Route Discovery Procedure includes:

broadcasting a route request;

broadcasting information about the first directed path with the route request;

forwarding the route request via receiving nodes until the request is received by the target node;

building the second directed path having path segments utilizing the path segments that the route request has traveled; and

preventing the second directed path from including directed path segments found in the first directed path.

5. (Previously Presented) The method of claim 1, wherein establishing the first directed path and establishing the second directed path each include broadcasting an on-demand flooding route request.

6. (Previously Presented) The method of claim 1, wherein establishing the first directed path and establishing the second directed path occur substantially simultaneously.

7. (Cancelled)

8. (Currently Amended) The method of claim 7.1, wherein adding the first directed path to the second directed path includes utilizing a substantially vector based addition.

9.-12. (Cancelled)

13. (Original) The method of claim 1, wherein the two-node disjoint paths include both wireless path segments and wired path segments.

14. (Currently Amended) A source node comprising:
a transceiver to transmit and receive a wireless signal;
a path generator to establish at least a first plurality of paths of communication, utilizing at least in part the wireless signal, between the source node and a target node, the first plurality of paths including a plurality of directed

paths, each directed path having direction based path segments;
a path organizer to arrange the first plurality of paths generated by the
path generator into a second plurality of paths that are node disjoint, the
arranging including combining the first plurality of paths into a merged path and
dividing the merged path into the second plurality of paths, the combining
including adding the first set of paths together, such that path segments of
opposite directions cancel out, the combining further utilizing a substantially
vector based addition.

15. (Previously Presented) The source node of claim 14, wherein the path generator is further to generate a first directed path and a second directed path, each directed path having direction based path segments.
16. (Previously Presented) The source node of claim 15, wherein the path generator is further to generate a path utilizing a Generic Route Discovery Procedure.
17. (Previously Presented) The source node of claim 14, wherein the path generator is further to generate:
 - a first path utilizing the Generic Route Discovery Procedure utilizing an empty reference path, and
 - a second path utilizing the Generic Route Discovery Procedure utilizing the first path as the reference path.
18. (Previously Presented) The source node of claim 14, wherein the path generator is further to generate a second path via:
 - broadcasting a route request;
 - broadcasting information about a first directed path with the route request;
 - directing receiving nodes to forward the route request via receiving nodes until the request is received by the target node;
 - directing receiving nodes to build a second directed path having path segments utilizing the path segments that the route request has traveled; and

directing receiving nodes to prevent the second directed path from including directed path segments found in the first directed path.

19. (Previously Presented) The source node of claim 18, wherein the path generator is further to:

establish the first and second paths substantially simultaneously.

20.-22. (Cancelled)

23. (Previously Presented) The source node of claim 21, wherein the path organizer is further to:

determine if two path segments are between the same nodes but of opposite direction;

if so, remove both path segments from the merged path; and

repeat the determination and removal until all such paths segments are removed from the merged path.

24. (Cancelled)

25. (Previously Presented) The source node of claim 14, wherein the transceiver is further to send the wireless signal to the target node utilizing any one of the paths of the second plurality of paths that are node disjoint.

26. (Currently Amended) An article of manufacture comprising:

a storage medium; and

a plurality of machine accessible programming instructions stored on the storage medium and configured to program a node to:

establish a first directed path, having direction based path segments, from a source node to a target node;

establish a second directed path, having direction based path segments, from the source node to the target node;

merge the first and second directed paths into a merged path, the merging including adding the first directed path to the second directed

path to form a closed polygon, and removing any interior path segments from the closed polygon, wherein the merged path is the exterior path segments of the closed polygon; and

divide the merged path into a third and a fourth node-disjoint directed paths.

27. (Previously Presented) The article of claim 26, wherein the programming instructions are configured to establish the first directed path, and said establishing the first directed path further includes utilizing either a Generic Route Discovery Procedure or a Dynamic Source Routing protocol.

28. (Previously Presented) The article of claim 27, wherein the programming instructions are configured to establish the second directed path, and said establishing the second directed path further includes utilizing the Generic Route Discovery Procedure.

29. (Previously Presented) The article of claim 28, wherein the programming instructions are configured to utilize the Generic Route Discovery Procedure, and said utilizing includes:

broadcasting a route request;

broadcasting information about the first directed path with the route request;

forwarding the route request via receiving nodes until the request is received by the target node;

building the second directed path having path segments utilizing the path segments that the route request has traveled; and

preventing the second directed path from including directed path segments found in the first directed path.

30. (Previously Presented) The article of claim 26, wherein the programming instructions are configured to establish the first directed path and establish the second directed path, and said establishing the first directed path and said establishing the second directed path each further include:
broadcasting an on-demand flooding route request.

31. (Previously Presented) The article of claim 26, wherein the programming instructions are further configured to program the node to perform said establishing the first directed path and said establishing the second directed path substantially simultaneously.

32.-35. (Cancelled)

36. (Currently Amended) The article of claim ~~3526~~, wherein the programming instructions are configured to divide the merged path into the third and the fourth node-disjoint directed paths, and the dividing further includes:

determining which path segments of the closed polygon would be traversed if a transmission occurred between the source node and the target node in a clock-wise direction;

making the third path the clock-wise path segments; and
making the fourth path the counter-clock wise path segments.

37. (Previously Presented) The article of claim 36, wherein the programming instructions are configured to divide the merged path into the third and the fourth node-disjoint directed paths, and the dividing further includes:

creating the third path utilizing a first portion of the path segments from the first directed path and a first portion of the path segments from the second directed paths; and

creating the fourth path utilizing a second portion of the path segments from the first directed path and a second portion of the path segments from the second directed paths.

38. (Original) The article of claim 26, wherein the two-node disjoint paths include both wireless path segments and wired path segments.

39.-61. (Cancelled)